Application No.: 10/582.053 Docket No.: H07224 US (13744-46)

## AMENDMENTS TO THE CLAIMS

## Listing of Claims:

1. (Currently amended): A process for modifying a substrate which has having one or more functional groups which are selected from hydroxyl groups and primary and secondary amino groups, which comprises bringing the process comprising contacting at least one substrate is brought into contact with a compound of [[the]] formula I or II under conditions such that the functional groups react, with opening of the 1,3-dioxolane ring or 1,3-diazaheptane ring and formation of a covalent bond, with the compound of [[the]] formula I or II

in which

R is C1-C12-alkylene;

if k is 1, X is CO-CH=CH<sub>2</sub>,  $\frac{CO-C(CH_3)}{CH_{20}}$  CO-O-aryl, C<sub>2</sub>-C<sub>6</sub>-alkylene-SO<sub>2</sub>-CH=CH<sub>2</sub> or CO-NH-R<sup>1</sup>; and

R<sup>1</sup> is C<sub>1</sub>-C<sub>30</sub>-alkyl, C<sub>1</sub>-C<sub>30</sub>-haloalkyl, C<sub>1</sub>-C<sub>30</sub>-hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>1</sub>-C<sub>30</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyloxy-C<sub>1</sub>-C<sub>30</sub>-alkyl, amino-C<sub>1</sub>-C<sub>30</sub>-alkyl, mono- or di(C<sub>1</sub>-C<sub>6</sub>-alkyl)amino-C<sub>1</sub>-C<sub>30</sub>-alkyl, ammonio-C<sub>1</sub>-C<sub>30</sub>-alkyl, polysiloxanyl-C<sub>1</sub>-C<sub>30</sub>-alkyl, (meth)acryloyloxy-C<sub>1</sub>-C<sub>30</sub>-alkyl, sulfono-C<sub>1</sub>-C<sub>30</sub>-alkyl, phosphono-C<sub>1</sub>-C<sub>30</sub>-alkyl, di(C<sub>1</sub>-C<sub>6</sub>-alkyl)phosphono-C<sub>1</sub>-C<sub>30</sub>-alkyl, phosphonato-C<sub>1</sub>-C<sub>30</sub>-alkyl, di(C<sub>1</sub>-C<sub>6</sub>-alkyl)phosphonato-C<sub>1</sub>-C<sub>30</sub>-alkyl or a saccharide radical and.

if k is an integer of more than 1, X is (i) the radical of a polyamine to which the moiety in brackets in the formula is bonded via (CO)NH groups, or (ii) a polymeric skeleton to which the

2

575812\_1

Application No.: 10/582,053 Docket No.: H07224 US (13744-46)

moiety in brackets in the formula is bonded via (CO), NH-C2-C6-alkylene-O-(CO) or (CO)-O-C2-C6-alkylene-O(CO) groups.

- (Currently amended): The process as claimed in of claim 1, wherein the substrate being 2. is selected from the group consisting of biomolecules, polymers [[or]] and surfaces.
- (Currently amended): The process as claimed in of claim 2, wherein the substrate 3. [[being]] is a polymer.
- 4. (Currently amended): The process as claimed in of claim 3, wherein in the compound of the formula I or II X being II, X is CO-NH-R1 and at least some one or more of the radicals R1 [[being]] is ammonioalkyl.
- 5. (Currently amended): The process as claimed in of claim 4, wherein some at least one of the radicals R1 being radicals differing from is not ammonioalkyl.
- 6. (Currently amended): The process as claimed in of claim 1, wherein the compound of the formula I or II being brought into contact is contacted with a first substrate under conditions such that a covalent bond forms between a first end of the compound of the formula I or II and the first substrate, [[and]] then the reaction product being brought into contact is contacted with a second substrate under conditions such that a covalent bond forms between a second end of the compound of the formula I or II and the second substrate.
- (Currently amended): The process as elaimed-in of claim 6, wherein at least one of the 7. first and/or or second substrate being selected from is selected from the group consisting of biomolecules, polymers [[or]] and surfaces.
- 8. (Currently amended): The process as claimed in of claim 7, wherein the polymer being selected from at least one polymer is selected from the group consisting of polyalkyleneamines, polyvinylamine, polyallylamine, polyethylenimine, chitosan, polyamide/epichlorohydrin resins, polyaminostyrene, peptides [[orl] and proteins.
- 9. (Currently amended): The process as claimed in of claim 1, wherein the compound of the 3

Application No.: 10/582,053 Docket No.: H07224 US (13744-46)

## formula I being selected from is selected from the group consisting of

- 4-phenyloxycarbonyloxymethyl-2-oxo-1,3-dioxolane,
- 4-(4-phenyloxycarbonyloxy)butyl-2-oxo-1,3-dioxolane,
- 2-oxo-1,3-dioxolan-4-ylmethyl acrylate,
- 2-oxo-1,3-dioxolan-4-ylmethyl methacrylate,
- 4-(2-oxo-1,3-dioxolan-4-yl)butyl acrylate,
- 4-(2-oxo-1,3-dioxolan-4-yl)butyl methacrylate, and
- 4-(vinylsulfonylethoxy)butyl-2-oxo-1,3-dioxolane.
- 10. (Currently amended): A compound of [[the]] formula I or II

1

$$\begin{bmatrix} \circ & & & & \\ \circ & & & \\ \circ & & & \end{bmatrix}_{R} X \qquad \qquad \begin{matrix} & & & \\ & & & \\ & & & \\ & & & \end{matrix}$$

II

in which R is C1-C12-alkylene;

 $\label{eq:condition} if k is 1, X is C_2-C_6-alkylene-SO_2-CH=CH_2 or CO-NH-R^1; and R^1 is C_1-C_{30}-alkyl, C_1-C_{30}-haloalkyl, C_1-C_6-alkyl, C_1-C_6-alkyl, C_1-C_6-alkyl, C_1-C_6-alkyl, ammonio-C_1-C_{30}-alkyl, ammonio-C_1-C_{30}-alkyl, ammonio-C_1-C_{30}-alkyl, polyoxyalkylene-C_1-C_{30}-alkyl, polyoxyalkylene-C_1-C_{30}-alkyl, polyoxyalkylene-C_1-C_{30}-alkyl, polyoxyalkyl, di(C_1-C_6-alkyl)phosphonot-C_1-C_{30}-alkyl, di(C_1-C_6-alkyl)phosphonot-C_1-C_{30}-alkyl, di(C_1-C_6-alkyl)phosphonot-C_1-C_{30}-alkyl, di(C_1-C_6-alkyl)phosphonot-C_1-C_{30}-alkyl, ammonio-C_1-C_{30}-alkyl, di(C_1-C_6-alkyl)phosphonot-C_1-C_{30}-alkyl, phosphonot-C_1-C_{30}-alkyl, di(C_1-C_6-alkyl)phosphonot-C_1-C_{30}-alkyl, ammonio-C_1-C_{30}-alkyl, di(C_1-C_6-alkyl)phosphonot-C_1-C_{30}-alkyl, di(C_1-C_6-al$ 

4

575812\_1

if R is C<sub>2</sub>-C<sub>12</sub>-alkylene, X may also be CO-aryl, CO-CH=CH<sub>2</sub>-CO-C(CH<sub>3</sub>)=CH<sub>2</sub> or (meth)acryloyloxy-C<sub>1</sub>-C<sub>30</sub>-alkyl-NH-CO,

or if k is an integer of more than 1, X is the radical of a polyamine to which the moiety in brackets in the formula is bonded via (CO)NH groups, wherein the polyamine is selected from the group consisting of dialkylenetriamines, polydimethylsiloxanes having aminoalkyl groups, polyvinylamine, polyallyamine, polyethylenimine, chitosan, polyamide/epichlorohydrin resins, polyaminostyrene, peptides and proteins.

11. (Currently amended): The compound process as claimed in of claim 10, in which R1 is

$$-R^2-NR_3^{3+}Y$$
,

$$-R^2\text{-PO}_3H_2,$$

$$\text{-}R^2\text{-}OPO_3H_2$$

or a saccharide radical,

 $R^2\text{-being }\underline{\text{wherein }}R^2\underline{\text{ is }}C_1\text{-}C_{18}\text{-alkylene, }R^3\text{ [[being]]}\underline{\text{ is }}C_1\text{-}C_{18}\text{-alkyl or benzyl and }R^4$ 

Application No.: 10/582,053 Docket No.: H07224 US (13744-46)

[[being]] is hydrogen or methyl,

- Y [[being]] is one equivalent of an anion,
- n and m independently of one another, being an integer are integers from 0 to 12; and
- p [[being]] is an integer from 1 to 100.
- 12. (Currently amended): The compound as claimed in of claim 10, wherein the compound is selected from the group consisting of
  - 4-(4-phenyloxycarbonyloxy)butyl-2-oxo-1,3-dioxolane,
  - 2-oxo-1,3-dioxolan-4 ylmethyl acrylate,
  - 2-oxo-1.3-dioxolan-4-vlmethyl methacrylate.
  - 4-(2-oxo-1,3-dioxolan-4-yl)butyl acrylate,
  - 4-(2-oxo-1,3-dioxolan-4-yl)butyl methacrylate, and
  - 4-(vinylsulfonylethoxy)butyl-2-oxo-1,3-dioxolane.
- (Currently amended): A modified polymer obtainable by the process as elaimed in of claim 3.
- 14. Canceled
- 15. (Currently amended): A finish, dispersant, emulsifier, adhesion promoter, adhesive or contact adhesive for modifying surfaces or for immobilizing active substances which comprises comprising the polymer as elaimed in of claim 13.